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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/552,857	04/20/2000	Jeffrey Allen Whaley	AUS000104USI	4257
7590	10/07/2004			
Duke W Yee Carstens Yee & Cahoon LLP PO BOX 802334 Dallas, TX 75380			EXAMINER WALLACE, SCOTT A	
			ART UNIT 2671	PAPER NUMBER 10

DATE MAILED: 10/07/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/552,857

Applicant(s)

WHALEY, JEFFREY ALLEN

Examiner

Scott Wallace

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 April 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18, 22 and 23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 3-7, 9-17, 19-23 is/are rejected.
- 7) ☒ Claim(s) 2, 8 and 18 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- 1) ☐ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Response to Arguments

1. Applicant's arguments with respect to claims 1-18 and 22-23 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 7 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Kelley et al., U.S. Patent No. 5,517,603.

4. As per claim 1, Kelley et al discloses an apparatus for optimizing processing of graphics data (abstract), the apparatus comprising: a plurality of logic units (fig 7), wherein the plurality of logic units are used to perform a graphics operation (fig 7) in which a set of constants is required for the graphics operation (column 13 lines 1-15 and column 15 lines 38-52, Z-value could be a constant value); a first set of connections connecting the plurality of logic units to each other (fig 7), wherein the first set of connections are used to configure the plurality of logic units (column 13 lines 1-15 and column 15 lines 38-52; fig. 7, stage 2 is one logic circuit and stage 3 is another logic circuit) to calculate the set of constants (column 15 lines 38-52, the pixel interpolation token is received from one connection and the Z-value is calculated for stage 2 and the alpha value is calculated for stage 3); and a second set of connections connecting the plurality of logic units (fig 7), wherein the second set of connections configure the plurality of logic units to perform the graphics operation (column 13 lines 1-15 and column 15 lines 38-52) in which the graphics operation uses the constants calculated through the first set of connections (fig 7 and column 13 lines 1-15 and column 15 lines 38-52 and column 25 lines 60-65, control tokens from a

connection configure the chip (logic unit) to perform its particular function, like using the Z-value (constant) to generate another result.

5. As per claim 7, Kelley et al discloses wherein the apparatus is a graphics adapter (column 2 lines 5-15).

6. As per claim 10, Kelley et al discloses a graphics pipeline (fig 7) comprising: an input (fig 7, #701, objects are input for processing), wherein the input receives graphics data (fig 7, #701); and output (fig 7, #709, this output is the frame buffer which is then sent to the display fig 4 # 410 and #409), wherein the output transmits processed graphics data (fig 7, #709, the processed data does to the frame buffer); and a plurality of stages (fig 7) wherein a first stage within the plurality of stages is connected to the input (the input, objects, is connected to stage 1) and a last stage within the plurality of stages is connected to the output (stage 3 is connected to the system buffer which is the output connected to the display); the selected stage is configured to calculate constants for use in performing a graphics operation (column 15 lines 38-52, the z-value is calculated for stage 2); and in the selected stage is configured to perform the graphics operation using the constants calculated (the z-value is used to determine how close an object is). However, Kelley et al does not disclose using modes of operation. A mode is just a particular way of functioning. Therefore it is inherent that there are different modes of operation here. Anytime two different functions are happening that is two different modes.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said

subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 3 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kelley et al in view of Rohner, U.S. Patent No. 6,064,392.

9. As per claims 3 and 13, Kelley et al does not disclose wherein the graphics operation is a generation of a fog factor. This is disclosed in Rohner in the abstract. It would have been obvious to generate a fog factor as the graphics operation because it was well known to use fog for added realism in graphics.

10. Claims 4 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kelley et al in view of Harris et al., U.S. Patent No. 6,304,265.

11. As per claims 4 and 14, Kelley et al does not disclose wherein the graphics operation is a viewport transformation. This is disclosed in Harris et al in column 7 lines 48-56. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use viewport transformation with the system of Kelley et al because this would allow the graphics data to be mapped and viewed on a computer screen.

12. Claims 5-6, 9 and 11-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kelley et al in view of Gholizadeh et al., U.S. Patent No. 5,369,737.

13. As per claims 5 and 11, Kelley et al does not disclose wherein the constants are stored in a memory. This is disclosed in Gholizadeh et al in fig 3, #70. It would have been obvious to one of ordinary

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skill in the art at the time the invention was made to store the constants on Kelley et al in memory because this would allow the constants to be used again if they were needed.

14. As per claims 6, 9 and 12, Kelley et al does not disclose wherein the constants are stored in a set of registers. This is disclosed in Gholizadeh et al in fig 3, #70. It would have been obvious to one of ordinary skill in the art at the time the invention was made to store the constants on Kelley et al in registers because this would allow the constants to be used again if they were needed.

15. Claims 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kelley et al.

16. As per claim 15, Kelley et al does not disclose wherein the output is connected to a raster engine. It would have been obvious to one of ordinary skill in the art at the time the invention was made to connect the output to a raster engine because the image has to be rasterized before it can be displayed and in this case you want to display the modified (output) image.

17. As per claim 16, Kelley et al does not disclose wherein the input is connected to a raster engine. It would have been obvious to one of ordinary skill in the art at the time the invention was made to connect the input to a raster engine because the image has to be rasterized before it can be displayed and in this case you want to display the original (input) image.

18. As per claim 17, Kelley et al does not disclose wherein the input and the output are located in a raster interface unit. It would have been obvious to of ordinary skill in the art at the time the invention was made to use a raster interface unit because this would save on having to have separate raster engines which would save on the cost of the extra chip.

19. Claims 22 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cobb et al., U.S. Patent No. 6,603,474 in view of Kelley et al.

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20. As per claim 22, Cobb et al discloses an input configured to receive graphics data (column 4 lines 32-38); a frame buffer, wherein processed graphics data is stored for display (column 1 lines 30-34); a raster engine connected to the input and to the frame buffer, wherein the raster engine rasterizes the processed graphics data for display (column 4 lines 32-38); a geometry engine connected to the raster engine (column 4 lines 32-38), wherein the geometry engine receives graphics data from the raster engine (column 4 lines 32-38), processes the graphics data to the raster engine to form the processed graphics data (column 4 lines 32-38), and returns the processed graphics data to the raster engine and wherein the geometry engine includes a set of processing elements in which at least one processing element within the set of processing elements includes a set of logic units (it is well known for geometry engines to include processing elements because you are processing geometry data). However, Cobb et al does not disclose in which the set of logic units is used to perform an operation on the graphics data using an equation and wherein a portion of the set of logic units is used to determine at least one constant for the equation used in the operation. This disclosed in Kelley et al in column 13 lines 1-15 and column 15 lines 38-52. It would have been obvious to one of ordinary skill in the art at the time the invention was made to generate constants because this would increase processing speed by not having to regenerate them every time they are needed.

21. As per claim 23, Cobb in view of Kelley does not specifically disclose wherein the at least one processing element includes a storage to store the constant determined by the portion of the set of logic units such that recalculation of the at least one constant for additional operations on other graphics data is unnecessary until the at least one constant changes. It would have been obvious to one of ordinary skill in the art at the time the invention was made to store the constants in a storage unit such that recalculation of the set of constants for subsequent graphics operations is unnecessary until the set of constants change with the system of Kelley et al because this would allow the constants to be used as needed without having to recalculate the same constant over again.

22. Wood et al., U.S. Patent No. 6,028,590 is made reference to and cited but not used in the office action.

Allowable Subject Matter

23. Claims 2,8, 18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Scott Wallace whose telephone number is 703-605-5163. The examiner can normally be reached on Monday thru Friday from 8:30am to 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Zimmerman, can be reached on 703-305-9798. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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